

# RD-7106 — AUDIO/VIDEO RECEIVER

#### **UNPACKING AND INSTALLATION**

Your new high fidelity receiver is designed to deliver maximum enjoyment and years of trouble free service. Please take a few moments to read this manual thoroughly. It will explain the features and operation of your unit and help ensure a trouble free installation. Please unpack your unit carefully. We recommend that you save the carton and packing material. They will be helpful if you ever need to move your unit and may be required if you ever need to return it for service. Your unit is designed to be placed in a horizontal position and it is important to allow at least two inches of space behind your unit for adequate ventilation and cabling convenience.

To avoid damage, never place the unit near radiators, in front of heating vents, in direct sunlight, or in excessively humid or dusty locations. Connect your complementary components as illustrated in the following section.



#### CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

#### **WARNING**

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

Caution : Do not block ventilation openings or stack other equipment on the top.

#### FOR U.S.A.

■ Note to CATV System Installer: This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

#### **■ FCC INFORMATION**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- · Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**CAUTION:** Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# Caution regarding placement (Except for U.S.A. and Canada)

To maintain proper ventilation, be sure to leave a space around the unit (from the largest outer dimensions including projections) equal to, or greater than, shown below.

Left and right panels: 5 cm

Rear panel: 10 cm Top panel: 20 cm

### **READ THIS BEFORE OPERATING YOUR UNIT**

#### FOR U.S.A. AND CANADA ......120 V

#### **FOR YOUR SAFETY**

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only.

Observe all, safety precaution for use of a polarized AC plug. However, some products may be supplied with a non polarized plug.

**CAUTION:** To prevent electric shock, match wide blade of plug to wide slot, insert fully.

#### FOR EUROPE AND AUSTRALIA .......230 V/240 V

#### **FOR YOUR SAFETY**

Units shipped to Australia are designed for operation on 240 V AC only.

To ensure safe operation, the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring. Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth.

Improper extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

#### PAN-EUROPEAN UNIFIED VOLTAGE

All units are suitable for use on supplies 230-240 V AC.

#### FOR OTHER COUNTRIES...... 115 V/230 V

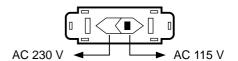
#### **FOR YOUR SAFETY**

Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

#### **AC VOLTAGE SELECTION**

This unit operates on 115/230 V AC. The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

AC voltage selector switch



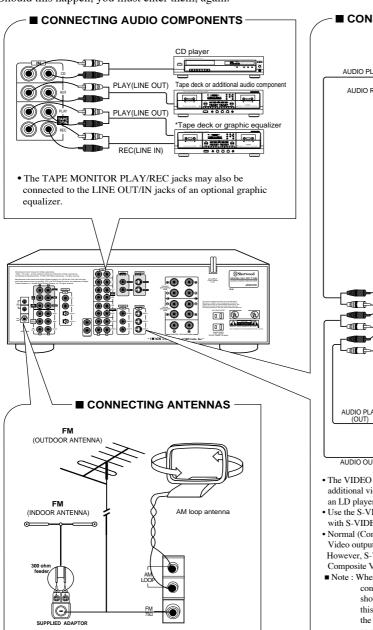
Move switch lever to match your line voltage with a small screwdriver or other pointed tool.

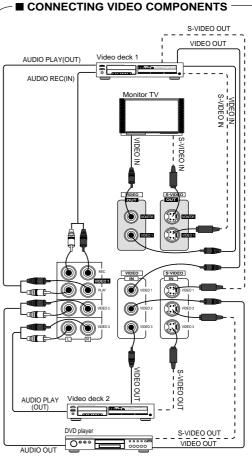
# CONTENTS

Introduction	
UNPACKING AND INSTALLATION	2
READ THIS BEFORE OPERATING YOUR UNIT	3
System Connections	5
Front Panel Controls	8
DIGI LINK III System Remote Controls	9
REMOTE CONTROL OPERATION RANGE	10
LOADING BATTERIES	10
Operations	
LISTENING TO A PROGRAM SOURCE	11
• SURROUND SOUND	
• ENJOYING SURROUND SOUND	16
• LISTENING TO RADIO BROADCASTS	20
• RECORDING	22
OTHER FUNCTIONS	24
Using the OSD	
CURRENT STATUS DISPLAY	25
MENU SCREEN	25
Troubleshooting Guide	27
Specifications	28

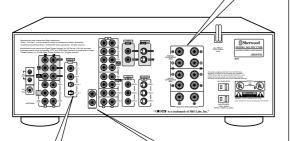
# System Connections

- When making system connections, please be certain the AC cord is not plugged into an AC outlet.
- When making system connections, please be sure to connect the white RCA pin cords to the L(left) and the red RCA pin cords to the R(right) jacks.
- Change the position of the FM indoor antenna until you get the best reception of your favorite FM stations.
- A  $75\Omega$  outdoor FM antenna may be used to further improve the reception. Disconnect the indoor antenna before replacing it with the outdoor one.
- Place the AM loop antenna as far as possible from the receiver, TV set, speaker cords and the AC input cord and set it to a direction for the best reception.
- If the reception is poor with the AM loop antenna, an AM outdoor antenna can be used in place of the AM loop antenna.
- Make connections firmly and correctly. If not, it can cause loss of sound, noise or damage to the receiver.
- If the electricity fails or the AC input cord is left unplugged for about 2 weeks, the memorized contents will be cleared. Should this happen, you must enter them, again.

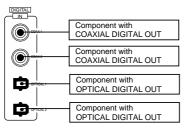




- The VIDEO 2(or VIDEO 3) jacks may also be connected to an additional video component such as a video deck, a cable TV tuner, an LD player or satellite system.
- Use the S-VIDEO jacks to make connections to video components with S-VIDEO IN/OUT jack.
- Normal (Composite) Video input signals will generate Composite Video output signals, only.
- However, S-Video input signals generate both S-Video and Monitor Composite Video outputs.
- Note: When Sherwood DVD player such as V-756, etc. is connected to the DIGI LINK jack for system control, you should connect the DVD player to the "VIDEO 2" jacks of this unit. Because, if the PLAY button, etc. is pressed on the DVD player, the "VIDEO 2" is automatically selected as an input source on this unit and the playback, etc. starts.

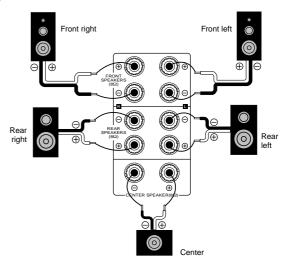


#### ■ CONNECTING DIGITAL INPUTS



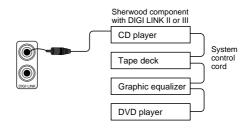
- The COAXIAL or the OPTICAL DIGITAL OUTs of the components that are connected to CD, VIDEO 1 ~ VIDEO 4 of this unit can be connected to these DIGITAL INPUTS. <sup>n</sup>
- A digital input should be connected to the components such as an LD player, CD player, DVD player, etc. capable of outputting DTS Digital Surround, Dolby Digital or PCM format digital signals.□
- For details, refer to the operating instructions of the component connected.□
- When making the COAXIAL DIGITAL connection, be sure to use a 75 $\Omega$  COAXIAL cable, not a conventional AUDIO patch cord. $\square$
- Not all of the commercially available Fiber Opticables are suitable for use with this receiver. If you have a questions about the suitability of any cable, please consult your dealer or a qualified service organization.
- Remove the protective cap before making OPTICAL connections. Reinsert the protective cap when the OPTICAL input is not being used.

#### **■ CONNECTING SPEAKERS**



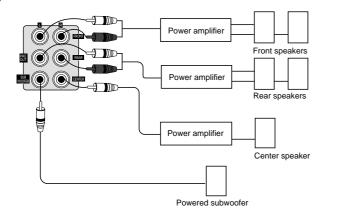
- The speaker terminal are designed to accept either bare wire or banana plugs.□
- If using bare wire, take care to not allow the + and wires to touch or short.  $\Box$
- Connect the speaker wires firmly and correctly according to the channel and position. Observe the proper polarity (+ and -).□
- To use two rear center speakers, wire them in series. For more details on series hook-up, consult your dealer or a qualified service organization.□
- This receiver is designed for use with speakers rated at 8 ohms impedance or above.

#### **■ CONNECTING SYSTEM CONTROL**



 Interconnect the green system control jacks on compatible Sherwood components that use the DIGI LINK II or III system using standard RCA to RCA cables.

#### ■ PRE OUT connections



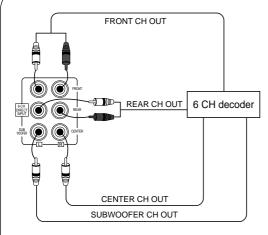
- $\bullet$  Use these jacks when adding additional amplifiers or powered speakers.  $\!\Box$
- Connect the Pre Out jacks to the corresponding amplifier channels or to the powered speakers as appropriate.□
- For enhanced deep bass performance, connect a powered subwoofer to the subwoofer output jack.

#### ■ AC INPUT CORD

Plug this cord into a suitable AC outlet.

(O) (O) (O) (O)

#### **■ CONNECTING 6 CH DIRECT INPUTS**

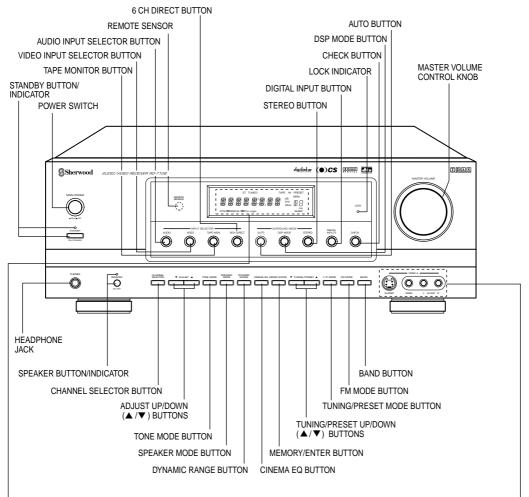


• Use these jacks to connect the corresponding analog outputs of 6 CH decoder or DVD player with 6 CH outputs for Dolby Digital, DTS, etc.□ (For details, see the operator's manual of the component to be connected.)

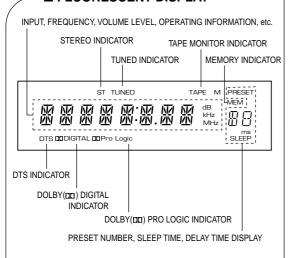
#### ■ SWITCHED AC OUTLETS

- These outlets are switched on(power-on mode) and off(standby mode) according to power control as follows(Maximum total capacity is 1A, 100W):
- Standby mode switched AC outlet off Power-on mode switched AC outlet on

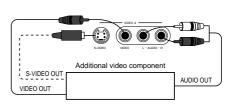
# Front Panel Controls



#### **■ FLUORESCENT DISPLAY**-



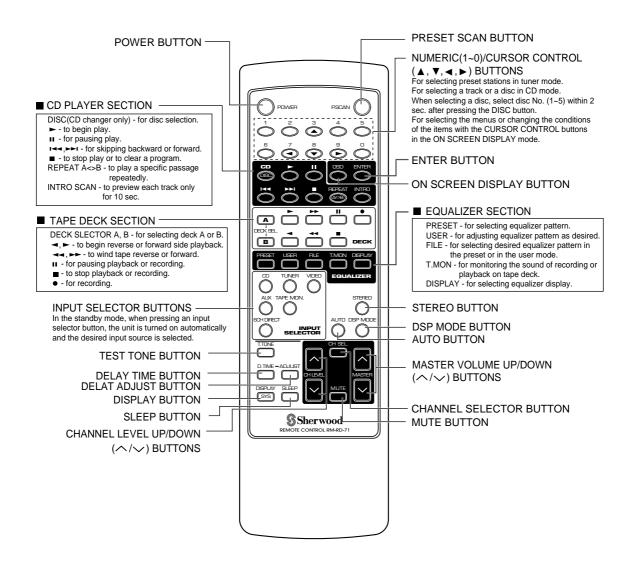
#### ■ VIDEO 4 INPUT JACKS



- The front VIDEO 4 audio/video input jacks may be connected to an additional video component such as a camcorder, a video deck, a video game console, etc.
- Use the S-VIDEO jack to make connection to a video component with S-VIDEO output.
- COMPOSITE VIDEO input signals will generate COMPOSITE VIDEO OUTPUTS, only.
  However, signals originating at the S-VIDEO INPUTS generate both S-VIDEO and MONITOR COMPOSITE VIDEO OUTPUTS.

# DIGI LINK III System Remote Controls

- You can remotely control not only this receiver but also Sherwood compatible components bearing the DIGI LINK II or III logo.
- For system remote control operation, first make the DIGI LINK connections.

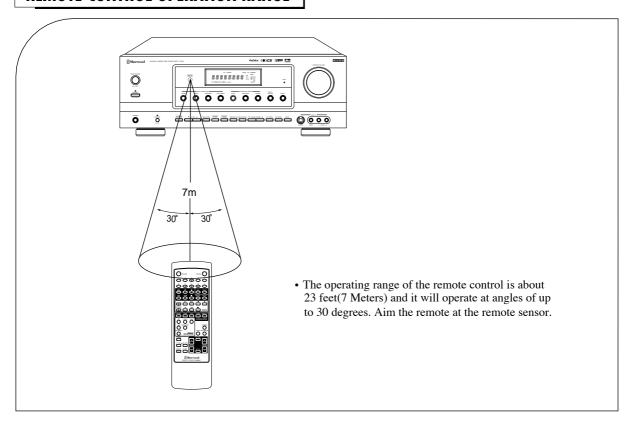


• In the DIGI LINK III remote control system, pressing PLAY, etc. on a CD player or a tape deck, automatically selects the CD or TAPE MONITOR input and then PLAY, etc. starts.

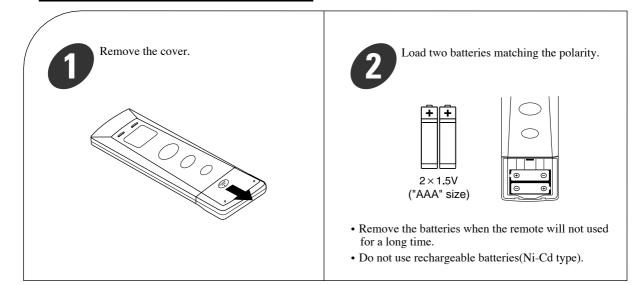
#### Notes

- Some functions for CD player, tape deck or equalizer may not be available from the remote control.
- For details about functions, refer to the operating instructions of each component.

## **REMOTE CONTROL OPERATION RANGE**



# **LOADING BATTERIES**



# **Operations**

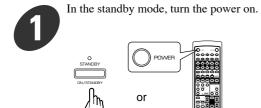
### LISTENING TO A PROGRAM SOURCE

#### **Before operation**

• Enter the standby mode.



- The STANDBY button lights up in red.
   This means that the receiver is connected to the AC power and a small amount of current is retained to support the memorized contents and operational readiness.
- To switch the power completely off, push the POWER switch, again.
- The power is cut off and the STANDBY light goes off



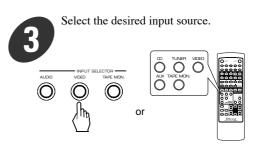
- Each time the STANDBY button on the front panel or the POWER button on the remote control is pressed, the receiver turns on to enter the operating mode(the STANDBY button lights up in green) or turns off to enter the standby mode(the STANDBY button lights up in red).
- In the standby mode, if one of the INPUT SELECTOR buttons is pressed, the receiver is turned on automatically and the desired input is selected.



Switch the speakers on.



- The SPEAKER indicator lights up and sound can be heard from the speakers connected to the speaker terminals.
- When using headphones for private listening, press the SPEAKER button again to switch the speakers off.



• Each time the "AUDIO" button is pressed, the input source changes as follows;

• Each time the "VIDEO" button is pressed, the input source changes as follows;

$$\rightarrow$$
 VIDEO 1  $\rightarrow$  VIDEO 2  $\rightarrow$  VIDEO 3  $\rightarrow$  VIDEO 4  $\rightarrow$ 

• When the TAPE MONITOR button is set to on so that "TAPE M" indicator lights up, other inputs can not be heard from the speakers.

To listen to an input source other than TAPE MONITOR, be sure to set the TAPE MONITOR button to off.

#### **TAPE MONITOR function**

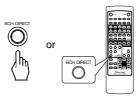
You can connect either a tape deck or a graphic equalizer to the receiver's TAPE MONITOR jacks.

To listen to the component connected to these jacks, set the TAPE MONITOR button to on.

If you connect a 3-head tape deck, you can monitor the actual recording while it is in progress and not just the source sound.

For further details, refer to the operating instructions of the component connected.

■ When selecting the 6 CH DIRECT as desired



- 6-DIRECT is displayed and the 6 separate analog signals from a decoder or DVD player connected to this unit will be heard. You can use the tone controls and volume control to adjust the signal. (If the TAPE MONITOR button is set to on, it will be automatically set to off.)
- To cancel the 6 CH DIRECT function, press the 6 CH DIRECT button again or select another desired input
- These 6 separate analog signals can be heard, only. They cannot be recorded.

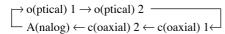
# When CD, VIDEO 1~VIDEO 4 is selected as an input source



Select the digital or the analog input connected as desired.



 Each time this button is pressed, the corresponding input is selected as follows;



- To listen to DTS or Dolby Digital program source in the 2-CH downmix mode(the stereo mode), the corresponding digital input should be selected. (For details, refer to "Downmixing into 2 front channels" on page 19.)
- Notes:
- When the selected optical or coaxial digital input is not connected, the selected DIGITAL INPUT indicator flickers meaning no sound. (Refer to "ENJOYING SURROUND SOUND" on page 16.)
- The sound from the component connected to the selected digital input can be heard regardless of the selected input source.



Operate the selected component for playback.

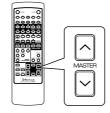
 To play back the program sources in surround sound, refer to "ENJOYING SURROUND SOUND" on page 16.



Adjust the(overall) volume.



or



#### Adjusting the tone (bass and treble)



Enter the tone mode.



• "TONE ON" or "TONE OFF" is shown for 5 seconds.



Select the tone mode as desired.



• Each time this button is pressed, the tone mode changes as follows:

TONE OFF: When listening to a pure program source without the tone effect.

TONE ON: When adjusting the tone for your taste.

- When "TONE OFF" is selected.
- The tone direct function is activated and the sound that bypasses the tone circuitry will be heard.
- To cancel the tone direct function, select "TONE ON" performing the above steps 7 and 8.
- When "TONE ON" is selected.
- 1) Select the tone mode as desired.



• Each time this button is pressed, the mode changes as follows:

 $\rightarrow$  BASS  $\rightarrow$  TRBL(treble)  $\rightarrow$  TONE ON  $\neg$ 

2) At the desired tone, adjust as desired.



- In general, we recommend the bass and the treble to be set to 0(flat) level.
- To complete tone adjustment, repeat the above steps 1) and 2).
- Notes:
- If the tone display disappears, start from the step 7 again.
- Extreme settings of the tone controls at high volume may damage your speakers.
- In DTS or Dolby Digital mode, the tone controls cannot be adjusted and the tone direct function is activated automatically.



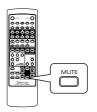
To compensate for edgy or shrill movie sound tracks.



- Then "C-EQ ON" is displayed.
- Press it again to cancel, then "C-EQ OFF" is displayed.



To mute the sound.



- "MUTE" will flicker.
- To resume the previous sound level, press MUTE again.



To listen with the headphones.



- Press the SPEAKER button to off.
- When listening to DTS or Dolby Digital program source, if the headphones are plugged in and the SPEAKER button is set to off, the 2-CH downmix mode will be selected automatically. (For details, refer to "Downmixing into 2 front channels" on page 19.)

### **SURROUND SOUND**

• This receiver incorporates a sophisticated Digital Signal Processor that allows you to create optimum sound quality and sound atmosphere in your personal Home Theater.

#### Surround modes

This unit has 8 different surround modes to allow you to enjoy surround sound with various program sources: DTS, DOLBY DIGITAL, DOLBY PRO LOGIC, DOLBY VIRTUAL, CIRCLE SURROUND, THEATER, HALL, STADIUM.

**DTS (Digital Theater System) :** Allows you to enjoy 5.1 discrete channels of high quality digital audio from DTS program sources bearing the " trademark such as laser discs,

DVD and compact discs, etc. DTS Digital Surround delivers up to 6 channels of transparent audio identical to the original masters and results in exceptional clarity throughout a true 360° sound field.

Manufactured under license from Digital Theater Systems, Inc. US Pat. No. 5,451,942 and other world-wide patents issues and pending. "DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.
 1996 Digital Theater Systems, Inc. All rights reserved.

Note: The DTS program sources should be played back in the DTS mode. If not, no sound or a sound like continuous noise will be heard.

**DOLBY DIGITAL**: Allows you to enjoy up to 5.1 channels of digital surround sound from Dolby Digital program sources bearing the "DIGITAL" trademark such as laser discs, DVD's and DTV.

Dolby Digital provides better sound quality, improved dynamic range and great sense of direction, compared with the conventional Dolby surround. Now, you are able to enjoy real Home Theater sound in your home.

DOLBY PRO LOGIC: This unit incorporates the Dolby Pro Logic Surround Decoder which has the same functions for playback as it does in movie theaters and gives a theater-like experience in your home, naturally reproducing the audio sound field. Use with Dolby Pro Logic program sources bearing the "DODLBY SURROUND" "trademark such as video cassette tapes or laser discs.

**DOLBY VIRTUAL:** Dolby Virtual employs sophisticated digital processing to create the illusion of five "phantom" speakers. Therefore, this mode allows you to experience a realistic multichannel experience from any program source other than DTS, etc. through just a single pair of front speakers.

 Manufactured under licence from Dolby Laboratories. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories. Confidential Unpublished Works.
 © 1992-1997 Dolby Laboratories. All rights reserved.

**CIRCLE SURROUND:** This mode provides listeners with 5.1 discrete channels of surround sound from stereo recorded music, or surround encoded program material.

- Circle Surround and the ( ) symbol are trademarks of SRS Labs, Inc. in the United States and selected foreign countries. Circle Surround technology is incorporated under license from SRS Labs. Inc.
- When the 6 CH DIRECT INPUTS are connected to a 6 CH surround decoder such as Dolby Digital or DTS, etc., you can enjoy the corresponding surround sound, too. (For details, see the operator's manual of the component to be connected.)

**THEATER:** This mode provides the effect of being in a movie theater when watching a movie source that has a stereo sound track.

**HALL:** This mode provides the ambience of a concert hall for classical music sources such as orchestral, chamber music or an instrumental solo.

**STADIUM:** This mode provides an expansive sound field. For music sources like a rock concert, you will feel as if you were actually at the live concert. For sports programs such as a baseball game, you can obtain the true stadium effect.

#### **Delay time**

When the center speaker or the rear speakers is(are) closer to the listener than the front speakers, the sound from the center speaker or the rear speakers can arrive at the listener's ears earlier than the sound from the front speakers. In this case, the imaging is not as sharp and stable as it could be.

For audible improvement, the sound from center speaker can be delayed with the center delay time setting to synchronize the sound from the front and the center speakers and the sound from the rear speakers can be also delayed with the rear delay time setting so that the sound from the front and the rear speakers will be heard at the same time.

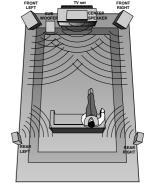
The optimum delay time will be different according to the room size and the acoustic properties.

• It is adjustable in Dolby Digital, Dolby Pro Logic or Dolby Virtual modes.(For details, refer to "In Dolby Digital, Dolby Pro Logic or Dolby Virtual mode, adjusting delay times of the speakers" on page 18.)

#### **Speaker placement**

To obtain the best surround sound effect in your home, place the speakers as follows;

- Front speakers: Place each front speaker about 1 m (40") from the TV set.
- Center speaker: Place the center speaker either above or below the TV set to assure good visualization of center channel program.
- Rear speakers: Place the rear speakers approximately 1 m above the ear level of a seated listener on the direct left and right of them or slightly behind.
- Subwoofer: Reproduces powerful deep bass sounds. Place a powered subwoofer anywhere in the front as desired.
- The ideal surround system needs all the speakers listed above. For optimum reproduction of DTS encoded material, DTS suggests that all speakers, front, center and rear, should be capable of full range reproduction.
- To enjoy the surround sound best, the speakers to be connected are as follows;



Speakers Modes	DTS	Dolby Digital	Dolby Pro Logic	Dolby Virtual	Circle Surround	Other Surround	Stereo	6 CH DIRECT
Front	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Center	Yes	Yes	Yes	-	Yes	Yes	-	Yes
Rear	Yes	Yes	Yes	-	Yes	Yes	-	Yes
Subwoofer	Yes	Yes	Optional	Optional	Optional	Optional	Optional	Yes

Note: To avoid interference with the TV picture, use only magnetically shielded center and front speakers.

### **ENJOYING SURROUND SOUND**

• Surround sound effect will not work properly if the signal passes through a graphic equalizer.

Please refer to your equalizer operating instructions for guidance on switching off (or defeating) the equalizer.



Select the desired surround mode.

When selecting a digital input for DTS, Dolby Digital, etc.



 Each time the AUTO button is pressed, the surround mode changes as follows:

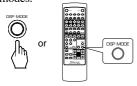
IN-AUTO: When selecting DTS, Dolby Digital or Dolby Pro Logic

mode automatically according to the digital signal input.

IN-DTS: When playing DTS program sources only.

IN-PCM : When playing stereo program sources such as CD, television, etc.

- When "IN-DTS" or "IN-PCM" is selected, the LOCK indicator lights up.
- If the surround mode does not match the digital signal input, no sound may be heard.
- When the analog input is selected, the AUTO button cannot be activated.
- When selecting a surround mode among Dolby Pro Logic, Dolby Virtual, Circle Surround, Theater, Hall and Stadium modes.



• Each time the DSP MODE button is pressed, the surround mode changes as follows;

DOLBY PRO LOGIC→ DOLBY VIRTUAL→ CIRCLE SURROUND—
STADIUM ← HALL ← THEATER ←

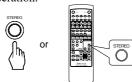
- When "IN-PCM" is selected, these surround modes can be also selected with the DSP MODE button.
- When the Dolby Digital mode is selected automatically in "IN-AUTO" mode, each time the DSP MODE button is pressed, the surround mode changes as follows;

  → DOLBY DIGITAL→ DOLBY VIRTUAL ¬
- When playing Dolby Digital 2.0 program sources in the "IN-AUTO" mode, either Dolby Pro Logic or Dolby Digital will be selected automatically based on the encoded signal. In this case, each time the DSP MODE button is pressed, the surround mode changes as follows;

 $\begin{picture}(t) \put(0,0) \put(0,0)$ 

(): The availability of Dolby Digital depens on program encoding.

 When canceling the surround mode for normal stereo operation.



#### Adjusting the speaker settings

- This receiver is equipped with circuitry that allows the use of a wide range of speaker systems.
- This circuitry works be redirecting the bass frequencies or the entire channel to speakers that are capable of reproducing them.
- When a large or full range speaker capable of deep bass response is used for one of the channels, that channel should be set to L.
- When a small or satellite speaker with limited bass capability is used, that channel should be set to S. Deep bass from that channel will be redirected to the main left and right speakers or to the subwoofer.
- When there is no speaker available, that channel should be set to N. All the information in that channel will be redirected to other available speakers.



With the receiver in any of the surround modes, press the SPEAKER MODE button for more than 2 seconds to enter the front-center-rear speaker set-up mode.



- The existing front-rear-center speaker setting is displayed.
- This set-up mode is not available when 6 CH DIRECT is selected the input source or when ANALOG is selected as the signal input in the STEREO mode.



Select the desired speaker setting.



 Each time this button is pressed, one of 11 different speaker settings is selected and displayed for 8 seconds as follows;

FL--CS--RS, FL--CL--RS, FL--CL--RL, FL--CL--RN, FL--CS--RL, FL--CN--RL, FL--CS--RN, FL--CN--RS, FS--CS--RS, FS--CS--RN, and FS--CN--RS

- F stands for Front Speakers, C for Center Speaker, R for Rear Speakers, L for Large, S for Small and N for None.
- Large Speakers are capable of deep bass response and typically have one driver with a cone that is 10 "(25 cm) or larger.
- The following speaker settings cannot be selected. FS--CL--RL or CN--RN.



Enter the subwoofer mode while it is displayed.



• If the speaker setting display disappears, start from the above step 2 again.



Select the desired subwoofer setting.



 Each time this button is pressed, the subwoofer setting changes and is displayed for 8 seconds as follows;

SUB W(oofer) -- Y(es): When using a powered

subwoofer.

SUB W(oofer) -- N(o): When not using a powered
subwoofer.

• If the front speakers are set to "S", the subwoofer is automatically set to "Y".



To memorize the speaker setting, press the MEMO/ENTER button while your choice is displayed.



- Your requested speaker settings are entered into memory.
- If the subwoofer display disappears before the MEMO/ENTER button is pressed, you must start again from step 2, above.

#### Checking the speaker setting



• Each time this button is pressed briefly, the current front-center-rear speaker or subwoofer setting is displayed.

### Adjusting each channel level



Select the desired channel.



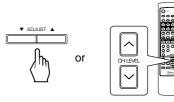
or



- Each time this button is pressed, the corresponding channel is selected and displayed for 3 seconds as follows;
- When it is in the normal stereo mode or the speaker setting is "N", center, rear or subwoofer channel will not be selected.



Adjust the level of the selected channel as desired.



- If the channel display disappears, start from the above step 7 again.
- 9

Repeat the above steps 7 and 8 to adjust other channel levels.

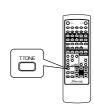
#### Adjusting each channel level with test tone

• In the surround modes only, the volume level of each channel can be adjusted easily with the test tone function.

Note: When "IN-DTS" is selected or the 6 CH DIRECT is selected as an input source, the test tone function does not work.



Enter the test tone mode.



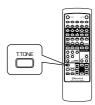
- The test tone will be heard from the speaker of each channel for 2 seconds as follows;
- When the speaker setting is "N", the test tone of the corresponding channel is not available.



Repeat the steps 7 to 9 in "Adjusting each channel level" until the sound level of each speaker is heard to be equally loud



Cancel the test tone function.



# Adjusting delay times of the speakers in Dolby Digital, Dolby Pro Logic or Dolby Virtual mode

In the Dolby Digital mode, the optimum performance of your system occurs when the sound from all five speakers arrives at your primary listening position at the time. If all speakers are equidistant from the main listening position, set the following delay.

Center delay time: 0 ms, Rear delay time: 0 ms

 If the center speaker is closer to your prime listening position than the average distance to the left and right main speakers add 1 ms of center channel delay for each foot of difference.

The maximum is 5 ms.

 If the surround speakers are closer to your main listening position than the main left and right speakers, add 5 ms of surround channel delay for each 5 feet of difference. The maximum is 15 ms.

**In Dolby Pro Logic**, if the surround speakers are the same distance from your primary listening position as your main left and right front speakers, set the Rear Delay time at 15 ms.

If the surround speakers are closer to your main listening position than the main left and right speakers, your receiver allows you to optimize the arrival time of the sound from your speakers. Measure the distance from the prime listening position to each of the speakers to the nearest foot.

 Add 5 ms of surround channel delay for each 5 feet of difference. The maximum is 30 ms.



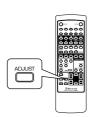
Check the current delay time.



- The current delay time will be displayed for 5 seconds.
- In the Dolby Digital mode, only, the center delay is adjustable and the corresponding delay time is also displayed.
- In the Dolby Virtual mode, "NARROW" or "WIDE" is displayed.



Adjust the delay time.



- Each time this button is pressed in the Dolby Digital or Dolby Pro Logic mode, the delay time changes in regular intervals.
- Each time this button is pressed in the Dolby Virtual mode, the delay mode changes as follows;

NARROW: Relatively long distance from the prime

listening position to front speakers.

WIDE: Relatively short distance.

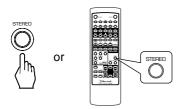
• If the delay time disappears, start again from step 13.



In the Dolby Digital mode, repeat the above steps 13 and 14 to adjust the rear delay time.

### **Downmixing into 2 front channels**

- Allows the multi-channel DTS or Dolby Digital signal to be reproduced through only two speakers or through headphones.
- When playing the DTS or Dolby Digital program sources, press the STEREO button.



• "ST" and the DTS or Dolby Digital indicators light up, indicating that the 2-CH downmix mode, and then the 5 discrete channels (front L, center, front R, rear L and rear R) are mixed down into 2 front channels.

- To cancel the 2-CH downmix mode, select the desired surround mode.
- When play is stopped or interrupted, etc., the 2-CH downmix mode is not canceled even though "ST" and the DTS or Dolby Digital indicators go off.
- DTS and Dolby Digital multi-channel program material will be heard automatically in the 2-CH downmix mode if headphones are plugged in and the SPEAKER button is set to off. However, only the DTS or Dolby Digital indicator will be illuminated. Unplugging the headphones and setting the SPEAKER button to on will restore the previous mode.

### LISTENING TO RADIO BROADCASTS

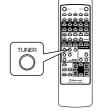
#### **Auto tuning**



Select the tuner.



OI



2

Select the desired band.





- Each time this button is pressed, the band is changed to FM or AM.
- When pressing the BAND button without first selecting TUNER, the tuner will be selected automatically.

3

Select the tuning mode.



- Each time this button is pressed, the mode changes as follows;
  - Tuning mode : "PRESET" goes off. Preset mode : "PRESET" lights up.



Press the TUNING/PRESET UP( $\triangle$ ) or DOWN( $\nabla$ ) button for more than 0.5 second.



- Then "A(uto)" appears on the display. The tuner will now search until a station of sufficient strength has been found. The display shows the tuned frequency and "TUNED".
- If the station found is not the desired one, simply repeat this operation.
- Weak stations are skipped during auto tuning.

### **Manual tuning**

- Manual tuning is useful when you already know the frequency of the desired station.
- Perform the steps 1 to 3 in "Auto tuning" procedure and press the TUNING/PRESET UP(△) or DOWN(▽) button repeatedly until the right frequency has been reached.



#### **Presetting radio stations**

• You can store up to 30 preferred stations in the memory.



Tune in the desired station with auto or manual tuning.



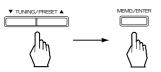
Press the MEMORY/ENTER button.



• "MEM" flickers for 5 seconds.



Select the desired preset number (1~30) and press the MEMORY/ENTER button.



 When using the NUMERIC buttons on the remote control.

- The station has now been stored in the memory.
- When using the NUMERIC buttons, the station is stored automatically without pressing the MEMORY/ ENTER button
- A stored frequency is erased from the memory by storing another frequency in its place.
- If "MEM" goes off, start again from step 2 above.

# 4

Repeat the above steps 1 to 3 to memorize other stations.

#### **■ MEMORY BACKUP FUNCTION**

The following items, set before the receiver is turned off, are memorized.

- INPUT SELECTOR settings
- Surround mode settings
- Preset stations, etc.

Note: If the electricity fails or the AC input cord is disconnected for more than 2 weeks, all memorized functions will be lost. Please enter them into memory, again.

#### **Tuning to preset stations**



After selecting the tuner as an input source, select the preset tuning mode.



• Then "PRESET" lights up.



Select the desired preset number.



• When using the NUMERIC buttons on the remote control.

 When selecting the desired preset number with the NUMERIC buttons, the desired preset station will be tuned to automatically without first selecting the preset tuning mode.

#### Listening to FM stereo broadcasts

- While listening to FM broadcasts.
- FM MODE
- Each time this button is pressed, the FM mode changes as follows;
  - Stereo mode: "ST" lights up. Mono mode: "ST" goes off.
- When FM stereo broadcasts are poor because of weak broadcast signals, select the FM mono mode to reduce the noise, FM broadcasts are then reproduced in monaural sound.

### Scanning preset stations in sequence



- The receiver will start scanning the stations in the preset sequence and each station is received for 5 seconds.
- At the desired station, press this button again to stop scanning.

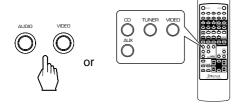
### **RECORDING**

- The analog signals from the 6 CH DIRECT inputs as well as the digital signals from the coaxial or optical digital input can be heard but cannot be recorded.
- The volume and tone (bass, treble) settings, etc. have no effect on the recording signals.

#### **Recording with TAPE MONITOR**



Select the desired input as a recording source except for TAPE MONITOR.



• Be sure that "TAPE M" goes off.



Start recording on component connected to the TAPE MONITOR.

3

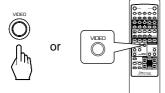
Start play on the desired input.

• For tape monitor function, refer to "TAPE MONITOR function" on page 11.

# Dubbing from video components onto VIDEO 1



Select VIDEO 2, VIDEO 3 or VIDEO 4 as a recording source.



2

Start recording on the VIDEO 1.



Start play on the VIDEO 2, VIDEO 3 or VIDEO 4.

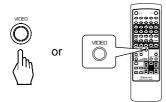
• The audio and video signals from the VIDEO 2, VIDEO 3 or VIDEO 4 will be dubbed onto the VIDEO 1 and you can enjoy them on the TV set and from the speakers.

# Dubbing the audio and video signals separately onto VIDEO 1

Example) When dubbing the VIDEO 2 video signal and the CD audio signal separately onto VIDEO 1.

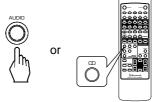


Select VIDEO 2 as a video recording source.



2

Select CD as an audio recording source.



3

Start recording on the VIDEO 1.



Start play on the VIDEO 2 and the CD respectively.

• The audio signal from the CD and the video signal from the VIDEO 2 will be dubbed and you can enjoy them on the TV set and from the speakers.

Note: Be sure to observe the order of the above steps 1 and 2.

### **OTHER FUNCTIONS**

# Checking the settings corresponding to each operation



- Each time this button is pressed, the setting changes and disappears in 2 seconds as follows;
- $\begin{array}{c} \longrightarrow \text{Input} \rightarrow \text{Surround mode} \rightarrow \text{Tone} \rightarrow \text{Channel level} \\ \longrightarrow \text{Dynamic range} \leftarrow \text{Cinema EQ} \leftarrow \text{Volume level} \\ \end{array}$
- The channel level settings are displayed according to the speaker settings.
- If the CHECK button is pressed for more than 2 seconds, the settings are displayed continuously and repeatedly.
- In this case, pressing any button will cancel the check function.

# Compressing the dynamic range (Dolby Digital mode only)

 This function compresses the dynamic range of previously specified parts of the Dolby Digital sound track(with extremely high volume)to minimize the difference in volume between the specified and nonspecified parts.

This makes it easy to hear all of the sound track when watching movies at night at low levels.



• Each time this button is pressed, the mode changes and disappears in 3 seconds as follows;

DYNamic Range 0.0 : Off

DYNamic Range 0.5 : Low compression

DYNamic Range 1.0 : High compression

• In some Dolby Digital software, this function may not be available.

### Operating the sleep timer

- The sleep timer allows the system to continue to operate for a specified period of time before automatically shutting off.
- To set the receiver to automatically turn off after the specified period of time.



 Each time this button is pressed, the sleep time changes and disappears in 3 seconds as follows;

$$\longrightarrow 10 \longrightarrow 20 \longrightarrow 30 \longrightarrow 60 \longrightarrow 90 \longrightarrow OFF$$
 Unit: minutes

- While operating the sleep timer, "SLEEP" lights up.
- When the sleep time is selected, all display panels of Sherwood components connected by the DIGI LINK III are dimly lit.

# Adjusting the brightness of the fluorescent displays



 Each time this button is pressed, the brightness of all fluorescent displays of Sherwood components connected by the DIGI LINK III changes together as follows;

$$\mathop{\longrightarrow} \operatorname{ON} \to \dim \to \operatorname{OFF} \ \neg$$

• In the display OFF mode, pressing any button will restore the display ON mode.

# Using the OSD

This unit incorporates an OSD(On-screen display) function to provide information about basic operation of this unit and to simplify the set-up procedures.

The OSD function uses a monitor TV connected to this unit as a display and has two kinds of display modes; Current Status Display and Menu Screen.

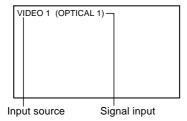
- Notes:
- Any on-screen display shown on the monitor TV will not be recorded onto VIDEO 1.
- In some countries, this unit allows you to select either NTSC or PAL color system as your video format. If it is different from your video components and video software, etc., while in the standby mode, press the STANDBY button while keeping the CHECK button pressed on the front panel, then the video format will change to the NTSC or the PAL color system.

However, in some countries, only the NTSC system is available.

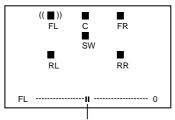
### **CURRENT STATUS DISPLAY**

This mode shows the status corresponding to each operation.

- The on-screen display will automatically disappear in 5 seconds.
- For example, there are 2 status displays as follows.
- When selecting the desired input source.



■ When selecting the TEST TONE mode.



Channel level or overall volume display

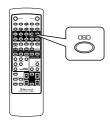
- When adjusting each channel level or overall volume, the volume level display will be shown.
- The test tone display will be shown until the test tone mode is canceled.

### **MENU SCREEN**

- This function simplifies the set-up procedures for items such as the speaker mode, function select, surround mode, delay time and channel level trim.
- The menu screen operation is performed easily with the CURSOR control(▲, ▼, ◄, ▶), ON SCREEN DISPLAY and ENTER buttons.



Turn the menu screen on.



- The main menu will be shown.
- To turn the menu screen off, press this button, again.

MAIN MENU

SPEAKER MODE
FUNCTION SELECT
SURROUND MODE
DELAY TIME
CH LEVEL TRIM

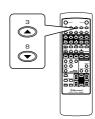
up/down: MOVE
OSD: END ENTER: SELECT

Main menu display

In the button of the display, "up" stands for the CURSOR UP(▲) button. "down" for the CURSOR DOWN(▼), "OSD" for the ON SCREEN DISPLAY and "ENTER" for the ENTER button.

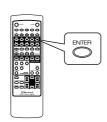


Select the desired menu using the CURSOR  $UP(\blacktriangle)$  or  $DOWN(\blacktriangledown)$  button.

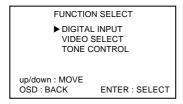


3

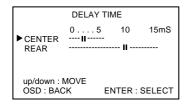
Confirm your selection.



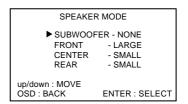
■ When selecting the FUNCTION SELECT.



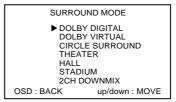
■ When selecting the DELAY TIME.



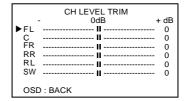
■ When selecting the SPEAKER MODE.



■ When selecting the SURROUND MODE.



■ When selecting the CH LEVEL TRIM.



- When adjusting each channel level, use the CURSOR LEFT(◀) and RIGHT(▶) buttons.
- The conditions of each menu may differ according to the speaker, surround mode settings, etc.



Select the desired menu or(and) change the condition with the corresponding buttons.



Repeat the above steps  $2\sim4$  to change the conditions on other menus.

# Troubleshooting Guide

If a fault occurs, run through the table below before taking your receiver for repair.

If the fault persists, attempt to solve it by switching the receiver off and on again. If this fails to resolve the situation, consult your dealer. Under no circumstances should you repair the receiver yourself as this could invalidate the guarantee!

PROBLEM	POSSIBLE CAUSE	REMEDY		
No power	The AC input cord is disconnected.     Poor connection at AC wall outlet or the outlet is dead or off.	Connect cord securely.     Check the outlet using a lamp or another appliance.		
No sound	The speaker wires are disconnected. The master volume is adjusted too low. The MUTE button on the remote control is pressed to ON. Speakers are not switched on. Incorrect selection of an input source. Incorrect connections between the components.	Check the speaker connections.     Adjust the master volume.     Press the MUTE button to cancel the muting effect.     Press the SPEAKER button to ON.     Select the desired input source correctly.		
No sound from the rear speakers	Surround mode is switched off.(normal stereo mode) Master volume and rear level are too low. Monaural source is used. Rear speaker setting is "N".	Select a surround mode.      Adjust master volume and rear level.     Select a stereo or surround source.     Select the desired rear speaker setting.		
No sound from the center speaker	<ul> <li>Surround mode is switched off(normal stereo mode).</li> <li>Center speaker setting is "N".</li> <li>Master volume and center level are too low.</li> </ul>	<ul> <li>Select the desired surround mode.</li> <li>Select the desired center speaker setting.</li> <li>Adjust master volume and center level.</li> </ul>		
Stations cannot be received.	<ul> <li>No antenna is connected.</li> <li>The desired station frequency is not tuned in.</li> <li>Antenna is in wrong position.</li> </ul>	Connect an antenna.     Tune in the desired station frequency.     Move antenna and retry tuning.		
Preset stations cannot be received.	An incorrect station frequency has been memorized.     The memorized stations are cleared.	Memorize the correct station frequency.     Memorize the stations again.		
Poor FM reception	No antenna is connected.     The antenna is not positioned for the best reception.	Connect an antenna.     Change the position of the antenna.		
Continuous hissing noise during FM reception, especially when a stereo broadcast is received.	Weak signals.	Change the position of the antenna.     Install an outdoor FM antenna.		
Continuous or intermittent hissing noise during AM reception, especially at night.	Noise is caused by motors, fluorescent lamps or lightning, etc.	Keep the receiver away from noise sources.     Install an outdoor AM antenna.		
Remote control unit does not operate.	Batteries are not loaded or exhausted.     The remote sensor is obstructed.	Replace the batteries.     Remove the obstacle.		
Other Sherwood components do not react to remote control commands.	DIGI LINK connections are not made properly.	Make proper DIGI LINK connections.		
OSD function is not available.	Video connections between this unit and the monitor TV are not made correctly.	Make proper video connections.		
No sound	The surround mode does not match the signal inputted.	Select the "IN-AUTO" mode by pressing the AUTO button after selecting the digital input.		
Delay time cannot be adjusted.	Under abnormal condition, delay time may not be adjusted on the delay time menu of OSD.	After turning the menu screen off, adjust delay time by using the DELAY TIME and DELAY ADJUST buttons on the remote control.		

# **Specifications**

■ AMPLIFIER SECTION	
• Power output, stereo mode, 8 Ω, THD 0.2%, 40 Hz~20 kHz	2×100 W
• Total harmonic distortion, 8 Ω, 100 W, 1 kHz.	
• Intermodulation distortion	
60  Hz : 7  kHz = 4 : 1  SMPTE, 8 Ω, 100  W.	0.07 %
• Input sensitivity, $47 \text{ k}\Omega$	
Line (CD, TAPE, VIDEO)	200 mV
• Signal to noise ratio, IHF "A" weighted	
Line (CD, TAPE, VIDEO)	95 dB
Frequency response	
LINE (CD, TAPE, VIDEO), 10 Hz~50 kHz	+0 dB, -3 dB
Output level	,
TAPE REC, 2.2 kΩ	200 mV
PRE OUT(Front, Center, Rear, Subwoofer), 1 kΩ	1.0 V
Bass/Treble control, 100 Hz/10 kHz	± 10 dB
Surround mode, only channel driven	
Front power output, 8 $\Omega$ , 1 kHz, THD 0.7 $\%$	110 W+110 W
Center power output, 8 Ω, 1 kHz, THD 0.7 %	
Rear power output, 8 $\Omega$ , 1 kHz, THD 0.7 %	
■ DIGITAL AUDIO SECTION	
Sampling frequency	22 44 1 48 06 kHz
Digital input level	32, 44.1, 46, 90 KHZ
Coaxial, 75 Ω	0.5 Vn n
Optical, 660 nm	* *
	-13~-21 <b>ub</b> iii
VIDEO SECTION	NECO
• Video format	N1SC
• Input sensitivity(=Output level), 75 $\Omega$	1.57
Video(Composite (normal))	
S-Video(luminance signal)	
(chrominance signal)	0.286 vp-p
■ FM TUNER SECTION	
Tuning frequency range	
• Usable sensitivity, THD 3 %, S/N 30 dB	
• 50 dB quieting sensitivity, mono/stereo	
Signal to noise ratio, 65 dBf, mono/stereo	
Total harmonic distortion, 65 dBf, 1 kHz, mono/stereo	
• Frequency response, 30 Hz~14 kHz	
Stereo separation, 1 kHz	
Capture ratio	
• IF rejection ratio	80 dB
■ AM TUNER SECTION	
Tuning frequency range	520~1710 kHz
Usable sensitivity	500 μV/m
Signal to noise ratio, 80 dB/m	45 dB
Selectivity	
<b>■ GENERAL</b>	
Power supply	AC 120 V, 60 Hz
Power consumption	
• Switched AC outlets	
• Dimensions(W×H ×D)	
• Weight(Net)	
- 11 organ(1 tot)	12.3 kg(21.1 l08)

Note: Design and specifications are subject to change without notice for improvements.

# O P E R A T I N G I N S T R U C T I O N S

